REMARKS

The Examiner is thanked for the performance of a thorough search. No claims have been amended or cancelled by this response. Hence, Claims 1-56 are pending in the Application.

Each issue raised in the Office Action mailed November 18, 2003 is addressed hereinafter. It is respectfully submitted that the rejection of Claims 1-56 are overcome for reasons given hereafter.

SUMMARY OF REJECTIONS

In the Office Action claims 22, 24, 25, 47, 49, 50 and 53 are rejected under 35 U.S.C.103(a) as being unpatentable over "An Open Agent Architecture" by Cohen.

Claims 1-5, 14-21, 26-46, 51, 52, and 54-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over "An Open Agent Architecture" by Cohen in view of U.S. Patent No. 6,484,155 issued to Kiss.

Claims 6-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cohen in view of Kiss, and further in view of "Development Tools for the Open Agent Architecture" by Martin.

Claims 23 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cohen in view of U.S. Patent No. 6,049,819 by Buckle.

REJECTIONS UNDER 35 U.S.C. § 103(a)

CLAIMS 1, 26, 51 and 54

Claim 1 recites in part, the features:

> "the facilitating engine further operable for generating a goal satisfaction plan associated with the base goal, wherein the goal satisfaction plan involves:
> using reasoning to determine sub-goal requests based on non-syntactic

decomposition of the base goal and using said reasoning to co-ordinate and schedule efforts by the service-providing electronic agents for fulfilling the sub-goal requests in a cooperative completion of the base goal."

The Office Action states that the "dynamic solution plan" in *KISS* is the equivalent of the "goal satisfaction plan" of applicants' Claim 1 above. The Office Action points to col. 5, lines 14-45; col. 8, line 21 - col. 9, line 26; and col. 10, lines 10-38 for support.

The method for forming the "dynamic solution plan" in *KISS* is irrelevant to the method of forming the goal satisfaction plan in Applicants' Claim 1. It is respectfully submitted that *KISS* is irrelevant because *KISS* is an invention involving accessing knowledge repositories. Such knowledge repositories are represented by "knowledge agents." The Abstract of *KISS* states that "the invention solicits accessible knowledge repositories, represented by knowledge agents, for relevant knowledge..."

In other words, *KISS* is merely a method of information retrieval from information repositories or data sources. For example, the meta agent can ask questions involving facts or data and the agents attempt to retrieve the facts or data from the corresponding data repository. In contrast, the goal satisfaction plan of Claim 1 involves asking service providing agents to perform **actions** such as boil water, roast coffee beans, grind the roasted coffee beans as opposed to merely asking the agents to retrieve information from an information repository.

To further explain why *KISS* is irrelevant and completely different from the method of Claim 1, see col. 5 lines 39-43 where "[t]he meta agent 119 is configured to begin executing the solution plan even before the plan is complete." This underscores the fact that the solution plan in *KISS* merely involves information retrieval rather than

asking the agent to perform intelligent actions such as roast coffee beans. In *KISS*, it is not fatal to begin executing the solution plan even before the plan is complete because no real harm is done if the meta agent begins by asking the wrong questions. To explain, *KISS* teaches "the meta agent 119 is capable of backtracking or replanning to permit escape from a dead-end." In other words, it is not fatal if the search for data is proceeding down an incorrect search path, as explained in *KISS*. In contrast, the facilitator of Claim 1 cannot begin execution of the goal satisfaction plan before the goal satisfaction plan is complete. For example, it would be fatal for the facilitator to ask a service-providing agent to boil the coffee beans instead of requesting that the coffee beans be first roasted and then ground. Such an action of boiling the coffee beans would be **irreversible** and would produce soggy beans. In other words, the service-providing agents of Claim 1 perform actions and are not merely sources of information.

Further, *KISS* does not use reasoning for "formulating the dynamic solution plan." In other words, *KISS* does not use the inferencing schemes as described in column 7 for generating the solution plan. In fact, *KISS* teaches away from using reasoning or inferencing for generating the solution plan. Column 8, lines 58-61 of *KISS* states that "**[a]fter** the solution plan is formulated, the meta agent 119 implements a distributed inference process to perform the search and execution phases of solving the problem, while maintaining control of the process" (emphasis added). Thus, the inference process is what the solution plan in *KISS* accomplishes and is not what is used to generate the solution plan.

In contrast, Claim 1 shows that the facilitating engine uses sophisticated reasoning when delegating sub-goal requests to best complete the requested service request. The facilitating engine's use of reasoning is supported by the specification on page 13, lines 342-347.

Assume that the facilitator agent of Claim 1 receives a request such as, "Make Coffee". The facilitator agent's facilitating engine uses reasoning to generate the following goal satisfaction plan:

> Sub-goal request A: Please perform the act of roasting coffee beans
> Sub-goal request B: Please perform the act of grinding coffee beans
> Sub-goal request C: Please perform the act of boiling water, etc.

The facilitating engine is able to use reasoning to accomplish the base goal, "Make Coffee" by asking an appropriate agents to first roast the coffee beans before asking the agent to grind the beans, etc.

Neither *Cohen* nor *KISS*, either alone or in combination, disclose, teach, suggest or make obvious the novel features of claim 1. Thus, Claim 1 is allowable.

Claims 26, 51 and 54, each contain similar features regarding "using reasoning to determine sub-goal requests based on non-syntactic decomposition of the base goal and using said reasoning to co-ordinate and schedule efforts by the service-providing electronic agents for fulfilling the sub-goal requests in a cooperative completion of the base goal." Thus, Claims 26, 51 and 54 are allowable for at least the reasons provided herein in respect to Claim 1.

CLAIMS 2-21, 27-46, 52, and 55-56

Claims 2-21 are either directly or indirectly dependent upon Claim 1 and include all the limitations of Claim 1 and therefore are allowable for at least the reasons

provided herein in respect to Claim 1.

Claims 27-46 are either directly or indirectly dependent upon Claim 26 and include all the limitations of Claim 26 and therefore are allowable for at least the reasons provided herein in respect to Claim 26.

Claim 52 is directly dependent upon Claim 51 and includes all the limitations of Claim 51 and therefore is allowable for at least the reasons provided herein in respect to Claim 51.

Claims 55-56 are either directly or indirectly dependent upon Claim 54 and include all the limitations of Claim 54 and therefore are allowable for at least the reasons provided herein in respect to Claim 54.

CLAIMS 22, 47 and 53

Claim 22 recites, in part, the feature:

"the facilitator agent being distinct from service-providing agents; and at least one service-requesting agent capable of making a request directly to a service-providing agent as a peer to peer communication for accomplishment of at least one of the sub-goals"

The Office Action states that in *Cohen* "the facilitator gent (BB4/BB5 server processes)" is "distinct from the service providing agents (BB6, BB7, BB8, and BB9 server processes)." It is respectfully submitted that BB1, BB2, BB3, BB4, BB5, BB6, BB7, BB8, and BB9 are all "blackboard servers"(see caption under Figure 1 in Cohen, and page 2, column 2, under the subheading "Distributed Blackboard Architecture"). The blackboard server agents in *Cohen* are NOT service-providing agents. The service-providing agents in *Cohen* are the "client agents" as described in column 1, page 2, lines 1-5, where it is clearly stated that "the Open Agent Architecture is a

blackboard-based framework allowing individual software 'client' agents to communicate by means of goals posted on a blackboard controlled by the server process." Thus, the blackboard server is equivalent to the facilitator in claim 1 and the client agent is equivalent to the service-providing agent in claim 1.

Further, the Office Action implies that *Cohen* discloses peer to peer communication between service-providing agents. As explained above, BB1, BB2, BB3, BB4, BB5, BB6, BB7, BB8, and BB9 are all "blackboard servers", i.e., facilitators. Thus, *Cohen* shows peer-to-peer communication between facilitators and not between service-providing agents.

Thus, *Cohen* does not disclose, teach, suggest or make obvious the novel feature, "the facilitator agent being distinct from service-providing agents, and at least one service-requesting agent capable of making a request directly to a service-providing agent as a peer to peer communication for accomplishment of at least one of the sub-goals" of Claim 22. Thus, Claim 22 is allowable.

Claims 47 and 53, each contain similar features regarding peer to peer communications between client agents. Thus, Claims 47 and 53 are allowable for at least the reasons provided herein in respect to Claim 22.

CLAIMS 23-25, 48-50

Claims 23-25 are either directly or indirectly dependent upon Claim 22 and include all the limitations of Claim 22 and therefore are allowable for at least the reasons provided herein in respect to Claim 22.

Claims 48-50 are either directly or indirectly dependent upon Claim 47 and include all the limitations of Claim 47 and therefore are allowable for at least the

reasons provided herein in respect to Claim 47.

CONCLUSION

For the reasons set forth above, it is respectfully submitted that all of the pending claims are now in condition for allowance. Therefore, the issuance of a formal Notice of Allowance is believed next in order, and that action is most earnestly solicited.

If in the opinion of the Examiner a telephone conference would expedite the prosecution of the subject application, the Examiner is encouraged to call the undersigned at (650) 838-4311.

The Commissioner is authorized to charge any fees due to Applicant's Deposit Account No. 50-2207.

Respectfully submitted,
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